UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/450,584	11/30/1999	SHIGERU TSUKIMURA	046601-5034	7883

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EXAMINER
POKRZYWA, JOSEPH R

ART UNIT	PAPER NUMBER
2625	

DATE MAILED: 07/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 May 2006</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date *5/9/06*

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 5/9/06 has been entered.

Response to Amendment

2.   Applicant's amendment was received on 2/23/06, and has been entered and made of

record. Currently, **claims 1-9** are pending.

Response to Arguments

3.   Upon review of the reference of Birnbaum, which was cited in the Office action dated

11/18/05 as being anticipated by Birnbaum *et al.* (U.S. Patent Number 5,923,821), the examiner

notes that the reference can still be interpreted as teaching the current claims, as amended.

4.   Applicant's arguments filed 2/23/06 have been fully considered but they are not

persuasive.

5.   In response to applicants arguments regarding the rejection of *claim 1*, whereby applicant

argues on pages 6 and 7 that Birnbaum fails to teach of an image processing device including a

branching unit that identifies a type of image data automatically and a black area detector that

detects a black area in the image data identified by the branching unit. Upon further review of

the reference, the examiner believes that Birnbaum's system inherently identifies a type of image

data and detects a black area in the identified image data. Particularly, in column 3, lines 51-61,

Birnbaum teaches that "The method includes the steps of: identifying a first object type having a

first object type having a first black image area;…identifying a second object type having a

second black image area". Further, Birnbaum teaches in column 9, lines 58-67, that "once black

text or an appropriate image object is detected, the system disables clearing of cyan, magenta and

yellow separations under the black object…" Continuing, Birnbaum utilizes PostScript files,

which are page description language files, to describe the image, as discussed in column 8, line

20-column 9, line 50. Because of the inherent features of PDL codes, which identify the objects

and colors within the codes, it can be recognized that Birnbaum's system is automatically

identifying a type of image data and detecting a black area of the identified image data.

6.   Therefore, the rejection of independent *claim 1*, as well as independent *claims 2, 6, 7,*

and 9, which were cited in the Office action dated 11/18/05 under 35 U.S.C. 102(e) as being

anticipated by Birnbaum *et al.*, are maintained and repeated in this Office action.

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8.   **Claims 1-3, and 6-9** are rejected under 35 U.S.C. 102(e) as being anticipated by

Birnbaum *et al.* (U.S. Patent Number 5,923,821, cited in the Office action dated 11/18/05).

Regarding *claim 1*, Birnbaum discloses an image processing device (see Fig. 5)

comprising an input part to which image data represented by a plurality of colors including black

is input (see Figs. 1 and 5, column 4, line 53-column 5, line 29, and column 7, lines 47-column 8,

line 29), a branching unit that identifies a type of image data automatically (see Fig. 1, column 3,

lines 51-61, column 7, lines 47-column 10, line 3, being inherent in the operation of PDL code),

a black area detector that detects a black area in the image data identified by the branching unit

(see Fig. 1, column 7, lines 47-column 8, line 29, and column 9, line 51-column 10, line 3), an

image interpreting unit that sequentially interprets the image data detected by the black area

detector regardless of contents of the image data in a background of the black area (see Figs. 1

and 4, column 9, line 51-column 11, line 1), and an output part that adds color materials, except a

black material, of a predetermined amount to the black area and outputs the color materials and

the black material (see Fig. 1, and column 8, lines 30-52, and column 9, line 51-column 10, line

38).

Regarding *claim 2*, Birnbaum discloses an image processing device (see Fig. 5)

comprising an input part to which image data represented by a plurality of colors including black

is input (see Figs. 1 and 5, column 4, line 53-column 5, line 29, and column 7, lines 47-column 8,

line 29), a branching unit that identifies a type of image data automatically (see Fig. 1, column 3,

lines 51-61, column 7, lines 47-column 10, line 3, being inherent in the operation of PDL code),

a black area detector that detects a black area in the image data identified by the branching unit

(see Fig. 1, column 7, lines 47-column 8, line 29, and column 9, line 51-column 10, line 3), an

image interpreting unit that sequentially interprets the image data detected by the black area

detector regardless of contents of the image data in a background of the black area (see Figs. 1

and 4, column 9, line 51-column 11, line 1), an edge detector that detects an edge of the black

area (see Figs. 2 and 3, column 9, line 51-column 10, line 38), and an output part that adds color

materials, except a black material, of an amount according to colors in the periphery of the edge

to the edge, adds the color materials, except the black material, of a predetermined amount to the

black area except the edge, and outputs the color materials and the black material (see Figs. 1-3,

column 8, lines 30-52, and column 9, line 51-column 10, line 38).

Regarding *claim 3*, Birnbaum discloses the device discussed above in claim 2, and

further teaches of an adjuster that adjusts the amount of the color materials except the black

material added to the edge in case a total amount of the color materials and the black material to

be output to the edge exceeds a predetermined amount (see Figs. 1-4, and column 8, lines 30-52,

and column 9, line 51-column 11, line 17).

Regarding *claim 6*, Birnbaum discloses an image processing method comprising the steps

of inputting image data represented by a plurality of colors including black (see Figs. 1 and 5,

column 4, line 53-column 5, line 29, and column 7, lines 47-column 8, line 29), identifying a

type of image data automatically (see Fig. 1, column 3, lines 51-61, column 7, lines 47-column

10, line 3, being inherent in the operation of PDL code), detecting a black area in the identified

image data (see Fig. 1, column 7, lines 47-column 8, line 29, and column 9, line 51-column 10,

line 3), interpreting the detected image data sequentially regardless of contents of the image data

in a background of the black area (see Figs. 1 and 4, column 9, line 51-column 11, line 1), and

adding color materials, except a black material, of a predetermined amount to the black area and

outputs the color materials and the black material (see Fig. 1, and column 8, lines 30-52, and

column 9, line 51-column 10, line 38).

Regarding *claim 7*, Birnbaum discloses an image processing device (see Fig. 5)

comprising an input part to which image data represented by a plurality of colors including black

is input (see Figs. 1 and 5, column 4, line 53-column 5, line 29, and column 7, lines 47-column 8,

line 29), a branching unit that identifies a type of image data automatically (see Fig. 1, column 3,

lines 51-61, column 7, lines 47-column 10, line 3, being inherent in the operation of PDL code),

a black area detector that detects a black area in the image data identified by the branching unit

(see Fig. 1, column 7, lines 47-column 8, line 29, and column 9, line 51-column 10, line 3), an

image interpreting unit that sequentially interprets the image data detected by the black area

detector regardless of contents of the image data in a background of the black area (see Figs. 1

and 4, column 9, line 51-column 11, line 1), an image determination unit that determines a type

of image in each area of the image data (see Figs. 1-3, column 9, line 51-column 10, line 38), and

an output part that adds color materials, except a black material, of a predetermined amount to an

area determined to hold a predetermined type by the image determination unit and detected as a

black area by the black area detector and output the color materials and the black material (see

Fig. 1, and column 8, lines 30-52, and column 9, line 51-column 10, line 38).

Regarding *claim 8*, Birnbaum discloses the device discussed above in claim 7, and

further teaches that the output part adds color materials, except the black material, of a

predetermined amount to an area determined to hold a character by the image determination unit

and detected as a black area by the black area detector regardless of contents of the image data in

a background of the black area and outputs the color materials and a black material (see Figs. 1-

4, and column 8, lines 30-52, and column 9, line 51-column 11, line 17).

Regarding *claim 9*, Birnbaum discloses an image processing method comprising the steps

of inputting image data represented by a plurality of colors including black (see Figs. 1 and 5,

column 4, line 53-column 5, line 29, and column 7, lines 47-column 8, line 29), identifying a

type of image data automatically (see Fig. 1, column 3, lines 51-61, column 7, lines 47-column

10, line 3, being inherent in the operation of PDL code), interpreting the identified image data

sequentially regardless of contents of the image data in a background of the black area (see Figs.

1 and 4, column 9, line 51-column 11, line 1), and adding color materials, except a black

material, of a predetermined amount to an area determined to hold a predetermined image type

and detected as a black area from among areas in the image data and outputting the color

materials and the black material (see Fig. 1, and column 8, lines 30-52, and column 9, line 51-

column 10, line 38).

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

10.   **Claims 4 and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Birnbaum *et al.* (U.S. Patent Number 5,923,821, cited in the Office action dated 11/18/05) in

view of Dermer *et al.* (U.S. Patent Number 5,313,570, cited in the Office action dated 11/18/05).

Regarding *claim 4*, Birnbaum discloses the device discussed above in claim 1, and

further teaches that the output part is based upon primary colors of black, yellow, magenta and

cyan (see abstract), and an amount of each color material of the Y, M, C is output to the black

area (column 6, lines 13-38). However, Birnbaum does not specifically teach if the amount of

each color material of the Y, M, C is output to the black area *in a range of 10 to 40%*

(percentage by weight) of the amount of black material.

Dermer discloses an image processing device (see Fig. 1) comprising an input part to

which image data represented by a plurality of colors including black is input (see Fig. 1), a

detector that detect boundary areas in the image data (see abstract), and an output part that adds

color materials, except a black material, of a predetermined amount to the detected area

regardless of contents of the image data in a background of the area and outputs the color

materials and the black material (column 19, line 8-column 20, line 54). Further, Dermer teaches

that the output part is based upon primary colors of black, yellow, magenta and cyan, and an

amount of each color material of the Y, M, C is output to the black area in a range of 10 to 40%

(percentage by weight) of the amount of black material (column 19, line 8-column 20, line 54, and seen in Fig. 24, whereby the output part outputs Y, M, C materials in any specified range, included within the range of 10 to 40% percentage by weight).

Birnbaum & Dermer are combinable because they are from the same field of endeavor, being printing systems that process images having input data with a plurality of colors. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the range of color material indicated by Dermer within the system of Birnbaum. The suggestion/motivation for doing so would have been that Birnbaum's system would be capable of printing more colors, since different combinations of colors, as well as tints and degredes, can be achieved by varying the weight percentages of each ink, as recognized by Dermer in column 19, lines 8-26. Therefore, it would have been obvious to combine the teachings of Dermer with the system of Birnbaum to obtain the invention as specified in claim 4.

Regarding *claim 5*, Birnbaum and Dermer disclose the device discussed above in claim 4, and Birnbaum further teaches of a reduction unit that reduces the amount of the color material of the Y, M, C, keeping the amount of the black material in case a total amount of the color materials of K, Y, M, C exceeds a predetermined value (column 10, line 56-column 11, line 17).
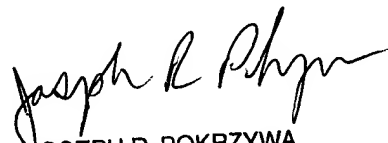
Conclusion

11.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joe Pokrzywa whose telephone number is (571) 272-7410. The examiner can normally be reached on Monday-Friday, 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (571) 272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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